

Neural Tissue Vitrification

Grant R43NS053111 | Period of support: 04/2006 – 04/2007

Challenge/Problem:

To provide a practical method for the extended preservation of neural tissue slices while maintaining tissue viability.

Progress:

Positive results on hippocampal tissue with electrical activity retained after cryopreservation and rewarming.

Approach:

Novel cryopreservation technology (vitrification) including tissue specific chemical formulations, concentration/temperature ramping protocols, and equipment.

Current/Near Term Products:

Tissue banking for research and clinical use. Instrumentation for high throughput drug screening and development assays, and neural toxin detection.

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Future Plans:

Phase 1 grant for development of associated HTS instrumentation.
Phase 2 grant for product engineering and pharmaceutical validation for ADME/tox assays.

Keywords: Cryopreservation, Vitrification, High Throughput Screening, ADME/toxicology